

IN THE CLAIMS

Please amend the claims as follows:

Claims 1-5 (Canceled).

Claim 6 (Previously Presented): A motor driving apparatus comprising:

a power supply source;

a DC/DC converter;

an inverter; and

a DC link capacitor, said DC link capacitor being connected between said inverter and said DC/DC converter and smoothing a voltage applied thereto,

wherein said motor driving apparatus makes a frequency of an inverter carrier signal for driving said inverter be synchronized with a frequency of a DC/DC converter carrier signal for driving said DC/DC converter, and controls a phase difference between both said carrier signals based on either an input voltage inputted to said DC/DC converter or an input voltage inputted to said inverter.

Claim 7 (Previously Presented): The motor driving apparatus according to Claim 6,

wherein the frequency of the DC/DC converter carrier signal is twice as high as that of the inverter carrier signal.

Claim 8 (Previously Presented): The motor driving apparatus according to Claim 6,

wherein the phase difference between both the carrier signals is also determined based on a percentage of modulation and a power factor which are operation parameters of the inverter.

Claim 9 (Previously Presented): The motor driving apparatus according to Claim 6, wherein the DC/DC converter is provided with two DC/DC converters, and is driven in two phases, and the frequency of the DC/DC converter carrier signal is equal to that of the inverter carrier signal.

Claim 10 (Previously Presented): The motor driving apparatus according to Claim 6, wherein the DC/DC converter is provided with two DC/DC converters, and is driven in two phases, the frequency of the DC/DC converter carrier signal is twice as high as that of the inverter carrier signal, and a phase difference between carrier signals of said two DC/DC converters is determined based on a percentage of modulation which is an operation parameter of the inverter.

Claim 11 (Currently Amended): A power converting apparatus comprising:
a power supply source;
a DC/DC converter configured to be driven by a DC/DC converter carrier signal;
an inverter configured to be driven by an inverter carrier signal; [[and]]
a DC link capacitor, ~~said DC link capacitor being~~ connected between said inverter and said DC/DC converter and ~~smoothing a~~ configured to smooth an applied voltage applied thereto; and

~~wherein said motor driving apparatus makes~~ a controller configured to synchronize a frequency of [[an]] the inverter carrier signal for driving said inverter be synchronized with a frequency of [[a]] the DC/DC converter carrier signal for driving said DC/DC converter, and controls control a phase difference between [[both]] said carrier signals inverter carrier signal and said DC/DC converter carrier signal based on an input voltage inputted to said DC/DC converter.

Claim 12 (Previously Presented): The power converting apparatus according to Claim 11,

wherein the frequency of the DC/DC converter carrier signal is twice as high as that of the inverter carrier signal.

Claim 13 (Previously Presented): The power converting apparatus according to Claim 11,

wherein the phase difference between both the carrier signals is also determined based on a percentage of modulation and a power factor which are operation parameters of the inverter.

Claim 14 (Previously Presented): The power converting apparatus according to Claim 11,

wherein the DC/DC converter is provided with two DC/DC converters, and is driven in two phases, and the frequency of the DC/DC converter carrier signal is equal to that of the inverter carrier signal.

Claim 15 (Previously Presented): The power converting apparatus according to Claim 11,

wherein the DC/DC converter is provided with two DC/DC converters, and is driven in two phases, the frequency of the DC/DC converter carrier signal is twice as high as that of the inverter carrier signal, and a phase difference between carrier signals of said two DC/DC converters is determined based on a percentage of modulation which is an operation parameter of the inverter.

Claim 16 (Currently Amended): A power converting apparatus comprising:

- a power supply source;
- a DC/DC converter configured to be driven by a DC/DC converter carrier signal;
- an inverter configured to be driven by an inverter carrier signal; [[and]]
- a DC link capacitor, ~~said DC link capacitor being~~ connected between said inverter and said DC/DC converter and ~~smoothing a~~ configured to smooth an applied voltage applied thereto; and

~~wherein said motor driving apparatus makes~~ a controller configured to synchronize a frequency of [[an]] the inverter carrier signal for driving said inverter be synchronized with a frequency of [[a]] the DC/DC converter carrier signal for driving said DC/DC converter, and ~~controls~~ control a phase difference between [[both]] ~~said carrier signals~~ inverter carrier signal and said DC/DC converter carrier signal based on an input voltage inputted to said inverter.

Claim 17 (Previously Presented): The power converting apparatus according to Claim 16,

wherein the frequency of the DC/DC converter carrier signal is twice as high as that of the inverter carrier signal.

Claim 18 (Previously Presented): The power converting apparatus according to Claim 16,

wherein the phase difference between both the carrier signals is also determined based on a percentage of modulation and a power factor which are operation parameters of the inverter.

Claim 19 (Previously Presented): The power converting apparatus according to Claim 16,

wherein the DC/DC converter is provided with two DC/DC converters, and is driven in two phases, and the frequency of the DC/DC converter carrier signal is equal to that of the inverter carrier signal.

Claim 20 (Previously Presented): The power converting apparatus according to Claim 16,

wherein the DC/DC converter is provided with two DC/DC converters, and is driven in two phases, the frequency of the DC/DC converter carrier signal is twice as high as that of the inverter carrier signal, and a phase difference between carrier signals of said two DC/DC converters is determined based on a percentage of modulation which is an operation parameter of the inverter.

Claim 21 (Currently Amended): A power converting apparatus comprising:
a power supply source;
a DC/DC converter configured to be driven by a DC/DC converter carrier signal;
an inverter configured to be driven by an inverter carrier signal; [[and]]
a DC link capacitor, ~~said DC link capacitor being~~ connected between said inverter and said DC/DC converter and ~~smoothing a~~ configured to smooth an applied voltage applied thereto; and

~~wherein said motor driving apparatus makes~~ a controller configured to synchronize a frequency of [[an]] the inverter carrier signal ~~for driving said inverter be synchronized~~ with a frequency of [[a]] the DC/DC converter carrier signal ~~for driving said DC/DC converter~~, and ~~controls control~~ a phase difference between [[both]] said ~~carrier signals~~ inverter carrier signal

and said DC/DC converter carrier signal based on a ratio of an input voltage inputted to said DC/DC converter and an input voltage inputted to said inverter.

Claim 22 (Previously Presented): The power converting apparatus according to Claim 21,

wherein the frequency of the DC/DC converter carrier signal is twice as high as that of the inverter carrier signal.

Claim 23 (Previously Presented): The power converting apparatus according to Claim 21,

wherein the phase difference between both the carrier signals is also determined based on a percentage of modulation and a power factor which are operation parameters of the inverter.

Claim 24 (Previously Presented): The power converting apparatus according to Claim 21,

wherein the DC/DC converter is provided with two DC/DC converters, and is driven in two phases, and the frequency of the DC/DC converter carrier signal is equal to that of the inverter carrier signal.

Claim 25 (Previously Presented): The power converting apparatus according to Claim 21,

wherein the DC/DC converter is provided with two DC/DC converters, and is driven in two phases, the frequency of the DC/DC converter carrier signal is twice as high as that of the inverter carrier signal, and a phase difference between carrier signals of said two DC/DC

converters is determined based on a percentage of modulation which is an operation parameter of the inverter.

Claim 26 (Currently Amended): A motor driving apparatus ~~to which the power converting apparatus according to Claim 11 is applied~~ comprising:

a motor; and

a power converting apparatus connected to the motor, the power converting apparatus comprising

a power supply source,

a DC/DC converter configured to be driven by a DC/DC converter carrier signal,

an inverter configured to be driven by an inverter carrier signal,

a DC link capacitor connected between said inverter and said DC/DC converter and configured to smooth an applied voltage, and

a controller configured to synchronize a frequency of the inverter carrier signal with a frequency of the DC/DC converter carrier signal, and control a phase difference between said inverter carrier signal and said DC/DC converter carrier signal based on an input voltage inputted to said DC/DC converter.

Claim 27 (Currently Amended): A motor driving apparatus ~~to which the power converting apparatus according to Claim 16 is applied~~ comprising:

a motor; and

a power converting apparatus connected to the motor, the power converting apparatus comprising

a power supply source,

a DC/DC converter configured to be driven by a DC/DC converter carrier signal,

an inverter configured to be driven by an inverter carrier signal,

a DC link capacitor connected between said inverter and said DC/DC converter and configured to smooth an applied voltage, and

a controller configured to synchronize a frequency of the inverter carrier signal with a frequency of the DC/DC converter carrier signal, and control a phase difference between said inverter carrier signal and said DC/DC converter carrier signal based on an input voltage inputted to said inverter.

Claim 28 (Currently Amended): A motor driving apparatus ~~to which the power converting apparatus according to Claim 21 is applied~~ comprising:

a motor; and

a power converting apparatus connected to the motor, the power converting apparatus comprising

a power supply source,

a DC/DC converter configured to be driven by a DC/DC converter carrier signal,

an inverter configured to be driven by an inverter carrier signal,

a DC link capacitor connected between said inverter and said DC/DC converter and configured to smooth an applied voltage, and

a controller configured to synchronize a frequency of the inverter carrier signal with a frequency of the DC/DC converter carrier signal, and control a phase difference between said inverter carrier signal and said DC/DC converter carrier

signal based on a ratio of an input voltage inputted to said DC/DC converter and an
input voltage inputted to said inverter.